Amendments to the Claims

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for inspecting a reticle, comprising:

> forming an aerial image of the reticle using a set of exposure conditions, wherein the aerial image comprises an image of light transmitted by an illuminated portion of the reticle, wherein the set of exposure conditions is substantially equivalent to exposure conditions used by an exposure system to print an image of the reticle onto a specimen, and wherein the reticle comprises optical proximity correction features; and

> detecting defects on the reticle by comparing the aerial image to a reference image stored in a database, wherein the reference image is substantially optically equivalent to an image of the reticle that would be printed on a-the specimen by an-the exposure system under the set of exposure conditions, and wherein the reference image does not include images of the optical proximity correction features.

2. (Original) The method of claim 1, wherein the optical proximity correction features are not imaged in the aerial image.

3. (Original) The method of claim 1, wherein the set of exposure conditions comprise exposure conditions within a process window of the exposure system.

4. (Original) The method of claim 1, further comprising forming a plurality of aerial images of the reticle using different exposure conditions and determining a process window of the exposure system using the plurality of aerial images.

5. (Original) The method of claim 1, further comprising altering the aerial image to simulate performance characteristics of the exposure system and the specimen.

6. (Original) The method of claim 1, further comprising detecting light reflected from the reticle and detecting additional defects on the reticle using the detected light.

7. (Original) The method of claim 1, wherein the reference image comprises designations identifying different types of regions in the reference image such that different procedures can be used to perform said detecting in the different types of regions.

8. (Original) The method of claim 1, wherein the reference image comprises designations identifying critical and non-critical regions of the reticle, the method further comprising indicating the defects that are detected in the critical regions.

9. (Original) The method of claim 1, further comprising determining if the reticle meets qualification criteria based on the detected defects.

10. (Original) The method of claim 1, wherein a substantial portion of the defects comprises defects that would be printed onto the specimen by the exposure system using the reticle under the set of exposure conditions.

11. (Original) The method of claim 1, wherein the specimen comprises a resist, and wherein the reference image is further substantially optically equivalent to an additional image of the reticle generated from a pattern selected to be formed in the resist using the reticle.

12. (Currently amended) A method for inspecting a reticle, comprising:

    forming an aerial image of the reticle using a set of exposure conditions, wherein the aerial image comprises an image of light transmitted by an illuminated portion of the reticle, wherein the set of exposure conditions is substantially equivalent to exposure conditions used by an exposure system to print an image of the reticle onto a specimen, and wherein the reticle comprises optical proximity correction features; and

    detecting defects on the reticle by comparing the aerial image to a reference image stored in a database, wherein the reference image does not include images of the

SN 10/679,857 Response to Office Action mailed 12/14/05   Page 3 of 10

PAGE 3/10 * RCVD AT 3/13/2006 12:04:37 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID:512 703 1250 * DURATION (mm-ss):05-50

optical proximity correction features, and wherein the reference image comprises designations identifying different types of regions in the reference image.

13. (Currently amended) A system configured to inspect a reticle, comprising:

an optical subsystem configured to form an aerial image of the reticle using a set of exposure conditions, wherein the aerial image comprises an image of light transmitted by an illuminated portion of the reticle, wherein the set of exposure conditions is substantially equivalent to exposure conditions used by an exposure system to print an image of the reticle onto a specimen, and wherein the reticle comprises optical proximity correction features; and

a processor configured to detect defects on the reticle by comparing the aerial image to a reference image stored in a database, wherein the reference image is substantially optically equivalent to an image of the reticle that would be printed on a the specimen by an the exposure system under the set of exposure conditions, and wherein the reference image does not include images of the optical proximity correction features.

14. (Original) The system of claim 13, wherein the optical proximity correction features are not imaged in the aerial image.

15. (Original) The system of claim 13, wherein the set of exposure conditions comprise exposure conditions within a process window of the exposure system.

16. (Original) The system of claim 13, wherein the optical subsystem is further configured to form a plurality of aerial images of the reticle using different exposure conditions, and wherein the processor is further configured to determine a process window of the exposure system using the plurality of aerial images.

17. (Original) The system of claim 13, wherein the processor is further configured to alter the aerial image to simulate performance characteristics of the exposure system and the specimen.

SN 10/679,857 Response to Office Action mailed 12/14/05   Page 4 of 10

PAGE 4/10 * RCVD AT 3/13/2006 12:04:37 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID:512 703 1250 * DURATION (mm-ss):05-50

18. (Original) The system of claim 13, wherein the optical subsystem is further configured to detect light reflected from the reticle, and wherein the processor is further configured to detect additional defects on the reticle using the detected light.

19. (Original) The system of claim 13, wherein the reference image comprises designations identifying different types of regions of the reticle such that different procedures can be used by the processor to detect the defects in the different types of regions.

20. (Original) The system of claim 13, wherein the reference image comprises designations identifying critical and non-critical regions of the reticle, and wherein the processor is further configured to indicate which of the defects are detected in the critical regions.

21. (Original) The system of claim 13, wherein a substantial portion of the defects comprises defects that would be printed onto the specimen by the exposure system using the reticle under the set of exposure conditions.

22. (Original) The system of claim 13, wherein the specimen comprises a resist, and wherein the reference image is further substantially optically equivalent to an additional image of the reticle generated from a pattern selected to be formed in the resist using the reticle.

SN 10/679,857 Response to Office Action mailed 12/14/05   Page 5 of 10

PAGE 5/10 * RCVD AT 3/13/2006 12:04:37 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-3/14 * DNIS:2738300 * CSID:512 703 1250 * DURATION (mm-ss):05-50